

REMARKS

Claims 3-13 are pending in the present application. Claims 4, 5, 6, 11, 12, and 13 have been amended in response to the present Office Action. Thus, upon entry of the foregoing amendments, claims 3-13 will remain pending.

Support for the amendments made herein can be found throughout the specification, sequence listing, and claims as originally filed. For example, support can be found in the specification at least at page 17 (beginning at line 16); at page 18 (beginning at line 29); and at page 19 (beginning at 31). The specification also has been amended to correct inadvertent typographical errors, reflect trademarks, and insert missing sequence identifiers.

The foregoing amendments should in no way be construed as acquiescence to any of the Examiner's rejections, and have been made solely to expedite the prosecution of the application. Applicants reserve the right to pursue the claims as originally filed or as previously pending claims, in this or in one or more separate applications. No new matter has been added.

Denial of the Applicants' Claimed Priority

The Examiner has rejected Applicants' claimed priority to United States Patent Application No. 60/201,261 (May & Ghosh), filed May 2, 2000, and to United States Patent No. 09/643,260 (May & Ghosh), filed August 22, 2000. The Examiner asserts that:

[n]either application teaches elected SEQ ID NO: 131. At page 46 of SN 60/201,2651 and at page 47 of SN 09/643,260 the following sequence is set forth: DRQIK IFWQN RRMKW KKTAL DWSWL QTE. In no place in either application does the specification teach the fragment RRMKW KKTAL DWSWL QTE, which corresponds to instant SEQ ID NO: 131. Thus, priority is denied to either priority application. The priority of the instant application is set to its filing date, May 2, 2001 for SEQ ID NO: 131.

Applicants respectfully disagree. The peptide corresponding to SEQ ID NO 31, RRMKW KKTAL DWSWL QTE, is clearly disclosed in and supported by Applicants' priority documents. In particular, each priority application teaches the peptide DRQIK IWFQN RRMKW KKTAL DWSWL QTE (SEQ ID NO: 18), as well as isolated peptide fragments of this peptide. For example, May *et al.* (09/643,260) teaches isolated peptides which include a

fragment of at least three amino acids of SEQ ID NO 18 (see page 5, beginning line 20; and claims 19 and 23). The presently claimed peptide of SEQ ID NO:31, RRMKW KKTAL DWSWL QTE, falls within this category. Therefore, the present claims are fully supported by Applicants' priority applications and, as such, are entitled to the benefit of their earlier filing dates.

Objection to the Specification

The Examiner has objected to the specification based on several informalities, e.g., typographical errors, sequence identifiers, and trademark identifiers.

The specification has been and amended to correct these informalities. Therefore, Applicants respectfully request that the Examiner reconsider and withdraw these objections.

Claim Objections

The Examiner has objected to claims 6, 11, 12, and 13 because of missing sequence identifiers. Furthermore, claims 6, 12, and 13 are objected to because they contain semicolons in the recited in the Markush groups. The Examiner notes that commas would be preferred. The claims have been amended to correct missing sequence identifiers and to add commas within the relevant Markush groups where appropriate. Accordingly, Applicants request that the objection to the claims be reconsidered and withdrawn.

***Rejection of Claim 6 Under the Judicially Created Doctrine of
Obvious-Type Double Patenting***

The Examiner has provisionally rejected claim 6 under the judicially created doctrine of obviousness-type double patenting “as being unpatentable over claims 19-21 of copending Application 09/643,260.” In particular, the Examiner contends that “[a]lthough the conflicting claims are not identical, they are not patentably distinct from each other because the claims 19-21 in U.S. Patent Application 09/643,260 are directed to SEQ ID NO: 2 which comprise Leu-Asp-Trp-Ser-Trp-Leu (current application, claim 6).”

While in no way admitting that claim 6 is obvious over claims 19-21 of copending United States Patent Application No. 09/643,260, upon allowance of the ‘260 application, Applicants will consider submitting a terminal disclaimer in compliance with 37 C.F.R. 1.321(b) and (c), if appropriate, which will obviate this rejection.

***Rejection of Claims 3-13 Under the Judicially Created Doctrine of
Obvious-Type Double Patenting***

Claims 3-13 are provisionally rejected under the judicially created doctrine of obviousness-type double patent as being unpatentable over claims 16-25 and 35 of copending United States Patent Application No. 09/847,940. Specifically, the Examiner asserts that “[a]lthough the conflicting claims are not identical, they are not patentably distinct from each other because the claims 16-25 and 35 in U.S. Patent Application 09/847,940 are directed to SEQ ID NO: 18, which comprises Arg-Arg-Met-Lys-Trp-Lys-LysThr-Ala-Leu Asp-Trp Ser-Trp-Leu-Gln-Thr-Glu (currently application, claims 3-13).”

While in no way admitting that claims 3-13 are obvious over claims 16-25 and 35 of copending United States Patent Application No. 09/847,940, upon allowance of the ‘940 application, Applicants will consider submitting a terminal disclaimer in compliance with 37 C.F.R. 1.321(b) and (c), if appropriate, which will obviate this rejection.

Rejection of Claims 3-5, 7-11, and 13 Under 35 U.S.C. §112, Second Paragraph

The Examiner has rejected claims 3-5, 7-11, and 13 under 35 U.S.C §112, second paragraph, “as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention.” Specifically, the Examiner is of the opinion that:

[a] sequence identifier (SEQ ID No.) is required for any amino acid sequence greater than 4 amino acids in length. In claims 3, and 7-10, the variable X_a, which is a membrane translocation domain is undefined. In claims 4 and 5, it is not clear where the additional amino acids are part of the claimed compound. Claim 11 is rejected for depending on rejected Claim 3. In claim 13, what “structure” us being claimed?

Applicants respectfully traverse this rejection, as it no longer applies to the claims as currently amended. Claims 6, 11, 12, and 13 have been amended to include appropriate sequence identifiers. Furthermore, claims 4 and 5 have been amended to assign the additional amino acids to an appropriate variable, e.g., X_a and X₇, of the presently claimed anti-inflammatory compound. Therefore, the rejection as applied to these claims is also now moot.

With regard to the Examiner's rejection of claims 3, and 7-10, Applicants respectfully submit that variable "X_a" is sufficiently clear and definite in view of the Applicants' specification such that one of ordinary skill in the art would understand the scope and use of the presently claimed invention (M.P.E.P. 2173.05(b)). In particular, variable "X_a" is explicitly defined in the specification at page 18, lines 24 through 34, as:

X_a is a membrane transduction domain consisting of 6-15 amino acid residues, preferably 6-12, or 6-10 amino acid residues. Preferably, X_a is a membrane translocation domain which comprises at least five basic amino acid residues, preferably at least five residues independently selected from L-arginine, D-arginine, L-lysine and D-lysine. Suitable membrane transduction domains include those disclosed herein. [] In one embodiment, X_a is selected from among the amino acid sequences RRMKWKK (SEQ ID NO:123); YGRKKRRQRRR (SEQ ID NO:124); ygrkkrrqrrr (SEQ ID NO:125); YARKARRQARR (SEQ ID NO:126); yarkarrqarr (SEQ ID NO:127); YARAARRAARR (SEQ ID NO:128); yaraarraarr (SEQ ID NO:129); rrmkwkk (SEQ ID NO:130); (R)_y and (r)_y, where y is 6 to 11. Lower case letters indicate D-amino acid residues and upper case letters indicate L-amino acid residues.

The function of variable X_a, a membrane transduction domain, is also explicitly defined at page 12, (beginning at line 19) as "a peptide capable of permeating the membrane of a cell and which is used to transport attached peptides into a cell *in vivo*." Therefore, the utilization of variable X_a also is clearly defined in the specification.

Indeed, "[i]f the claims, *read in light of the specification* reasonably apprise those skilled in the art both of the utilization and scope of the invention, and if the language is as precise as the subject matter permits, the statute (35 U.S.C §112, second paragraph) demand no more." (see M.P.E.P. 2173.05(b) quoting *Shatterproof Glass Corp. v. Libbey Owens Ford Co.*, 758 F2d 613, 225 USPQ 634 (Fed. Cir. 1985)). Accordingly, based on the foregoing definition, one of ordinary skill in the art would be more than reasonably apprised of both the utilization and scope of the claimed invention. Thus, Applicants respectfully request that the Examiner reconsider and withdraw this section 112, second paragraph rejection.

For the same reasons stated above in relation to claim 3, claims 7-11 (which depend from claim 3) are also sufficiently clear and definite.

With regard to claim 13, the present rejection no longer applies since this claim has been amended to correct the Markush group and add sequence identifiers.

In view of the foregoing, Applicants respectfully request that the Examiner reconsider and withdraw the rejections under 112, second paragraph.

Rejection of Claims 3-10, 12, and 13 under 35 U.S.C. §102(e)

The Examiner has rejected claims 3-10, 12 and 13 under 35 U.S.C. §102(e) as being anticipated by May *et al.* (WO 01/83554). In particular, the Examiner is of the opinion that “May et al. teach RRMKW KKTAL DWSWL QTE as their SEQ ID NO: 131 at page 19 which corresponds to instant SEQ ID NO.: 131.”

Applicants respectfully traverse this rejection on the grounds that May *et al.* (WO 01/83554) does not qualify as 35 U.S.C. §102(e) prior art against the present application for at least the following reasons.

To begin with, in order for a reference to qualify as 35 U.S.C. §102(e) prior art against a pending application, the reference must be by “another.” “Another” means other than applicants, in other words, a different inventive entity. The inventive entity is different if not all inventors are the same. See 35 U.S.C. §102(e) and M.P.E.P. § 2136.04. In the present case, the inventors of May *et al.* (WO 01/83554) and the inventors of the present application are the same: Michael J. May, Sankar Ghosh, Mark A. Findeis and Kathryn Phillips. Accordingly, May *et al.* (WO 01/83554) clearly does not qualify as 35 U.S.C. §102(e) prior art against the present application.

Moreover, “[i]n order to carry back the 35 U.S.C. §102(e) critical date of the U.S. patent reference to the filing date of a parent application, the U.S. patent reference must have a right of priority to the earlier date under 35 U.S.C. §120 or §365(c) and *the parent application must support the invention claimed as required by 35 U.S.C. §112, first paragraph.*” (*Emphasis added*; see M.P.E.P. § 2136.03). The Examiner relies on May *et al.* (WO 01/83554) for teaching the sequence “RRMKW KKTAL DWSWL QTE as their SEQ ID NO: 131” and having priority to U.S. Provisional Application Serial No 60/201,261 filed on May 2, 2000 (see page 7 of the

present Office Action). At the same time, the Examiner is taking the position that the present application is only entitled to the priority date of May 2, 2001 (its filing date) because the claimed priority document (U.S. Provisional Application Serial No 60/201,261) **does not disclose** the sequence RRMKWKKTALDW₇₃₅WLQTE (SEQ ID NO: 131) (see page 2 of the present Office Action). The inconsistency in the Examiner's argument is obvious: Either U.S. Provisional Application Serial No 60/201,261 does not disclose SEQ ID NO:131, in which case the Examiner cannot carry back the 35 U.S.C. §102(e) critical date of May *et al.* to the filing date of the parent application and, thus, May *et al.* does not qualify as 35 U.S.C. §102(e) prior art or U.S. Provisional Application Serial No 60/201,261 does disclose SEQ ID NO:131, in which case the present application is entitled to its priority date of May 2, 2000 and, thus, May *et al.* does not qualify as 35 U.S.C. §102(e) prior art.

In view of the foregoing, May *et al.* (WO 01/83554) does not qualify as 35 U.S.C. §102(e) prior art against the present application. Accordingly, Applicants respectfully request that the present 35 U.S.C §102(e) rejection be reconsidered and withdrawn.

Rejection of Claims 3-10 Under 35 U.S.C. § 102(b)

The Examiner has rejected claims 3-10 under 35 U.S.C. § 102(b) as being anticipated by Rothe *et al.* (WO 99/01541, January 14, 1999). The Examiner relies on Rothe *et al.* as teaching:

SEQ ID No: 2 comprising TALDW₇₃₅WLQTE at amino acid residues 735-745. Therefore, Rothe et al. teach compounds comprising TALDW₇₃₅WLQTE, LDW₇₃₅WLQTE, TALDW₇₃₅WL, ALD₇₃₅WLQTE, LDW₇₃₅WLQTE, LDW₇₃₅WL, TALDW₇₃₅WLQ, TALDW₇₃₅WLQ, ALD₇₃₅WLQ, LDW₇₃₅WLQ, and LDW₇₃₅WLQ. In SEQ ID NO: 4, LDW₇₃₅WL is taught at amino acid residues 738-743, and peptides comprising the sequence are taught on page 4, line 9 as residues 737-745. Therefore, Roth et al. teach compounds comprising LDW₇₃₅WL.

Applicants respectfully traverse this rejection and submit that it no longer applies to the claims as currently amended.

For a prior art reference to anticipate a claimed invention under 35 U.S.C. § 102, the reference must teach *each and every element* of the claimed invention. Lewmar Marine v. Barient, 827 F.2d. 744, 3 USPQ2d 1766 (Fed. Cir. 1987).

Rothe *et al.* disclose an amino acid sequence which contains the peptide sequence TALDWSQLQTE and LDWSWLSEQ. However, Rothe *et al.* do not teach or suggest the presently claimed element of fusing these peptide sequences to a membrane transduction domain, let alone the particular domain recited in claims 3-10. Therefore, Rothe *et al.* do not anticipate the presently claimed invention.

Furthermore, while Rothe *et al.* teach methods and compositions relating to IK- β kinase and IKK- α , as well as isolated IKK- α hybridization probes and primers capable of specifically hybridizing with known IKK- α genes, and IKK- α specific binding agents, Rothe *et al.* do not teach or suggest anti-inflammatory compounds comprising a NEMO binding domain fused to a translocation domain, let alone the particular domains claimed by Applicants, or methods of using such compounds for treating inflammatory disorders, as recited in claims 3-10.

Therefore, Rothe *et al.* do not anticipate the presently claimed invention.

Accordingly, for at least the foregoing reasons, Applicants respectfully request the Examiner to reconsider and withdraw the present rejection under 35 U.S.C. §102(b).

Rejection of claims 3-13 Under 35 U.S.C. §103(a)

The Examiner has rejected claims 3-13 under 35 U.S.C. §103(a) as being unpatentable over May *et al.* (May, Ghosh, Findeis, & Phillips; WO 01/83554). In particular, the Examiner is the opinion that

[i]n view of Applicants' admissions in the election response filed December 1, 2003...Applicants state that the peptides encompassed by the claims clearly represent a single invention in that they are connected in design, operation, and effect, *i.e.*, are not independent inventions. Therefore, in view of the Applicants admissions, all claimed peptides are rendered obvious over the teachings of May *et al.*"

Applicants respectfully traverse the rejection. As discussed above, the present application is entitled to the priority date of May 2, 2000. Accordingly, May *et al.* is not available as prior art.

Rejection of Claims 3-13 Under 35 U.S.C. §103(a)

The Examiner has rejected claims 3-13 under 35 U.S.C. §103(a) as being unpatentable over Rothe *et al.* (January 14, 1999; WO 99/01541). The Examiner relies on Rothe *et al.* for the teachings set forth above. Furthermore, the Examiner maintains that

[i]n view of Applicants' admissions in the election response filed December 1, 2003, Applicants state that the peptides encompassed by the claims clearly represent a single invention in that they are connected in design, operation, and effect, *i.e.*, are not independent inventions. Therefore, in view of the Applicants' admissions all claimed peptides are rendered obvious over the teachings of Rothe *et al.*

Applicants respectfully traverse this rejection. From the outset, the fact that Applicants' argued that the peptides encompassed by the claims represent a single invention in that they are connected in design, operation, and effect, *i.e.*, are not independent inventions, is in no way equivalent to an admission that the peptides of the present invention are collectively obvious over a prior art reference. For at least the reasons stated below, Applicants maintain that all of the presently claimed anti-inflammatory compounds, whether or not patentably distinct from one another, are unobvious over Rothe *et al.*

To establish a *prima facie* case of obviousness, it is necessary for the Examiner to present evidence, preferably in the form of some teaching, suggestion, incentive or inference in the applied references, or in the form of generally available knowledge, that one having ordinary skill in the art would have been motivated to make the claimed invention and would have had a reasonable expectation of success in making the claimed invention. Under section 103, "[b]oth the suggestion and the expectation of success must be founded in the prior art, not in applicant's disclosure." (*Amgen, Inc. v. Chugai Pharmaceutical Co., Ltd.* 927 F.2d 1200, 1207, 18 USPQ2d 1016 (Fed. Cir. 1991), quoting *In re Dow Chemical Co.*, 837 F.2d 469, 473, 5 USPQ2d 1529, 1531 (Fed Cir. 1988)).

In the present case, the Examiner has failed to establish a *prima facie* case of obviousness, since Rothe *et al.* fail to teach or suggest the claimed invention and further fail to provide the necessary motivation or reasonable expectation of success for the ordinarily skilled artisan to have tried making or using the presently claimed anti-inflammatory compounds.

As discussed above, Rothe *et al.* disclose amino acid sequences which contain the peptide sequence TALDW^SWLQTE and LDWSWLSEQ, but do not teach, suggest or in any

way render obvious the presently claimed aspect of fusing these peptide sequences to a membrane transduction domain, let alone the particular domain claimed by Applicants. Nor do Rothe *et al.* teach or suggest anti-inflammatory compounds comprising a NEMO binding domain fused to a translocation domain, let alone the particular domains claimed by Applicants. Nor has the Examiner cited any prior art reference that makes up for these deficiencies in the teachings of Rothe *et al.* Thus, the Examiner has failed to establish a *prima facie* case of obviousness.

Indeed, the Examiner has not articulated any reason whatsoever why it would have been obvious to one of ordinary skill at the time of the invention to have modified the particular peptide sequences taught by Rothe *et al.* by fusing these sequences to a membrane transduction domain or a NEMO binding domain, let alone the particular domains claimed by Applicants. As stated above, to establish obviousness, the Examiner must provide evidence in the form of some teaching, suggestion or knowledge in the prior art, that these differences between the presently claimed invention and Rothe *et al.* would have been obvious to one of ordinary skill. In the present case, the Examiner has not provided any such evidence.

Accordingly, for at least the foregoing reasons, Applicants respectfully request the Examiner to reconsider and withdraw the present rejection under 35 U.S.C. §103.

SUMMARY

In view of the above, each of the presently pending claims in this application is believed to be in condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

Applicants also file an appropriate extension of time herewith and believe no further fee is due with this statement. However, if a fee is due, please charge our Deposit Account No. 12-0080, under Order No. YAI-002 from which the undersigned is authorized to draw.

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Respectfully submitted,

By

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